R E P O R T R E S U M E S

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COOPERATIVE COLLEGE-SCHOOL SCIENCE PROGRAM, 1968 DIRECTORY. PROJECTS TO ADVANCE SCHOOL AND SCHOOL SYSTEM INSTRUCTION IN MATHEMATICS AND SCIENCE.

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THIS DIRECTORY CONTAINS BRIEF DESCRIPTIONS OF EACH OF THE 84 COOPERATIVE COLLEGE-SCHOOL SCIENCE PROJECTS (CCSS) OF THE NATIONAL SCIENCE FOUNDATION (NSF). CCSS PROVIDES OPPORTUNITIES FOR COLLEGES AND UNIVERSITIES TO COLLABORATE WITH SCHOOL SYSTEMS IN BRINGING ABOUT IMPROVEMENTS IN ELEMENTARY AND SECONDARY SCHOOL SCIENCE AND MATHEMATICS. THE PROGRAM SUPPORTS PROJECTS WHICH DEAL WITH PROBLEMS OF A NATURE AND COMPLEXITY THAT WARRANT THE COOPERATIVE EFFORTS OF A SCHOOL SYSTEM AND AN INSTITUTION OF HIGHER EDUCATION. TWO EXAMPLES OF THE PROJECTS SUPPORTED BY CCSS ARE THE FOLLOWING--(1) A SCHOOL SYSTEM IN NEED OF EXPERT ADVICE ON THE KINDS OF CHANGES THAT SHOULD BE MADE IN ITS MATHEMATICS OR SCIENCE PROGRAM REQUIRES ASSISTANCE IN TRAINING TEACHERS AND IN INTRODUCING NEW PROGRAM MATERIALS TO STUDENTS - A GRANT FROM THE CCSS PROGRAM ENABLES A NEAR-BY COLLEGE OR UNIVERSITY TO PROVIDE THE EXPERT ASSISTANCE WHICH THE SCHOOL SYSTEM NEEDS, AND (2) A SCHOOL SYSTEM DECIDES TO IMPROVE ITS SCIENCE OR MATHEMATICS PROGRAM NOT BY INTRODUCING A NEW CURRICULUM, BUT BY TAKING REMEDIAL MEASURES TO MODERNIZE AND IMPROVE THE EXISTING COURSES - A COLLEGE COLLABORATING WITH THE SCHOOL SYSTEM PROVIDES THE INSERVICE INSTRUCTION NECESSARY TO ENABLE THE TEACHERS TO CARRY OUT SUCH REFORMS. AS SHOWN IN THE EXAMPLES, THE PROJECTS INVOLVE A DOUBLE COMMITMENT. THE SECONDARY SCHOOLS COMMIT THEMSELVES TO THE REFORMS IN THEIR SCIENCE OR MATHEMATICS PROGRAMS WHICH HAVE BEEN DEVELOPED AS A RESULT OF THE COLLABORATION, AND THE COOPERATING HIGHER EDUCATIONAL INSTITUTION ASSUMES THE RESPONSIBILITY TO ASSIST THESE SCHOOLS. (RP)

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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Cooperative
College-
School
Science
Program

Projects to Advance School and School System Instruction in Mathematics and Science

1968 ..... Directory

National Science Foundation
Washington, D.C. 20550

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THE COOPERATIVE COLLEGE-SCHOOL SCIENCE PROGRAM

Approaches for School System Improvement

The Cooperative College-School Science Program (CCSS) of the National Science Foundation provides opportunities for colleges and universities to collaborate with school systems in bringing about improvements in elementary and secondary school science and mathematics.

The Program supports projects which deal with problems of a nature and complexity that warrant the cooperative efforts of a school system and an institution of higher education. Many of these projects are related to the important new science and mathematics curricula formulated in the last 10 years. These curricula have been developed by groups of scientists and educators, frequently under the sponsorship of national scientific or educational societies, and the results reflect the best thinking of many experts. The output of the course content improvement projects has been impressive and is continuing; already enough has been done so that schools now have available for their use a variety of modern, carefully designed programs in science and mathematics.

The decision as to whether a school system should adopt a new science or mathematics program is by no means trivial. Almost any change will require substantial financial commitments for books and equipment and for in-service training of teachers. The school system may need expert advice on the kinds of changes that should be made, if any; and then if changes are to be instituted, assistance in training teachers and in introducing the new science content material to students may be required. A grant from the CCSS Program may enable a nearby college or university to provide the expert assistance which the school system needs.

Introducing a new science program is a complicated undertaking; however, not all projects supported through the CCSS Program involve such a comprehensive change. Sometimes a project may develop from a belief on the part of school teachers and administrators that their mathematics or science program is somehow inadequate, and consequently they decide to attempt to improve it generally -- not by introducing a new curriculum, but by taking remedial measures to modernize and improve the existing courses. Again, a college may assist by collaborating with the school system and providing the in-service instruction necessary to enable the teachers to carry out such reforms. For example, the school system may arrange for a significant percentage of its teachers to participate in a summer training project, planned jointly by the college and the system. The summer phase would be followed by various activities

during the academic year, including further teacher training, classroom visits by appropriate college personnel, special seminars for school administrators, etc.

Projects supported by the CCSS Program are as diverse as the problems requiring cooperative efforts between college and school. The common ingredient in them is a cooperative attack by a college or university and a school or group of schools to effect improvements in science and mathematics programs of those schools. The projects thus involve a double commitment. The schools commit themselves to the reforms in their science or mathematics programs which have been developed as a result of the collaboration; the cooperating higher educational institution assumes a responsibility to assist the schools. This effort may require a continuing relationship extending over several years as cadres of teachers are trained, programs are modified, and procedures are instituted to assist teachers in bringing improvements into their own classrooms.

In the CCSS Program grants are made only to colleges, universities, and comparable institutions, though the impetus for one of the projects is likely to originate with a school system which may approach a college or university for assistance. Because of their objective, CCSS projects focus on specific schools to be the beneficiaries of the college-school collaboration. The teacher-participants in the various training activities are from the schools for which the project is designed. Persons seeking information on projects should therefore communicate with individual project directors, NOT with the National Science Foundation. Generally, the programs receive extensive local publicity.

Teachers who receive training in these projects over several weeks in the summer are in most cases provided with stipends and dependency allowances through the Foundation grant. For academic year activities, the grant may also provide some funds to assist with transportation and meal costs. As partners in the enterprise, the schools are encouraged to participate in the financial support of the project but monetary participation is not mandatory. The grantee institution is responsible for proposing cost-sharing arrangements for participant support when it is appropriate to the particular situation.

In some cases, CCSS projects have a State-wide or regional orientation. For example, a project may seek to improve instruction in one of the sciences in a large number of school systems that are distributed throughout a State. For these projects, the Foundation may support a consortium of colleges to present a uniform kind of training for teachers in school systems located near each of the colleges. In such a venture, one college may coordinate the activities of the

consortium, and the entire project may be mediated thrcugh a close alliance with the State Department of Public Instruction.

Critical and pressing problems revolve around the education of students who are economically or socially disadvantaged. Meeting challenges in this area demands broad experience as well as extraordinary skill, thus collaborative projects between colleges and schools which marshal the forces of both may provide valuable approaches. The CCSS Program can support imaginative projects to improve science and mathematics instruction for such students. However, because the financial resources of the Program are limited, projects must hold promise of becoming significant models worthy of emulation.

In its FY 1968 support for CCSS projects, the Foundation awarded 81 grants totaling $3,128,795 to higher educational institutions. These grants will result in 84 projects being carried out by the grantee institutions and the cooperating schools or school systems. Through the projects, 4,162 teachers will receive training. A third of the projects focus on elementary schools and two-third on junior high or high schools. A few of the projects provide for the use of special student-demonstration classes. Although there are variations, most of the projects will cover an 18-month period, beginning with planning and orientation activities in the spring of 1968, followed by an intensive teacher training program in summer 1968 and then by an additional complex of activities in academic year 1968-69 which will assist and support the teachers in their efforts to introduce what they have learned to their own students.

Brief description of the 84 Cooperative College-School Science projects are appended.

The Foundation will have available in April 1968 a brochure, "Cooperative College-School Science Program for School System Improvement - Suggestions for Preparation of Proposals" (E 68-P-22). This publication, which will be sent upon request, provides information about the Program and the preparation of proposals for the August 15, 1968, proposal closing date.

Inquiries concerning the CCSS Program
should be addressed to:

Cooperative College-School Science Program
SCIS/PES
National Science Foundation
Washington, D. C. 20550

COOPERATIVE COLLEGE-SCHOOL SCIENCE PROJECTS
1968-69

ALABAMA

ALABAMA ACADEMY OF SCIENCE, Auburn 36830; Biology, Chemistry, Physics, Mathematics; 44 weeks, August 1968 - June 1969; 400 secondary school teachers from cooperating school systems in Alabama. College professors will serve as consultants to Alabama secondary schools on classroom needs and curriculum developments. Dr. Herbert A. McCullough, Department of Biology, Samford University, Birmingham, Alabama 35209.

ALABAMA AGRICULTURAL & MECHANICAL COLLEGE, Normal 35762; Elementary School Science (Science Curriculum Improvement Study materials); summer: 3 days, August 27-29, 1968; 36 additional meetings in academic year 1968-69; 51 elementary school teachers from Callman and Decatur City Schools and Limestone County Schools. A combined effort by schools and two higher educational institutions to improve the teaching of elementary science in northern Alabama. Dr. Ralph H. Lee, Department of Chemistry.

SPRING HILL COLLEGE, Mobile 36608; Mathematics; summer: 6 weeks, June 10 - July 19, 1968; academic year: 30 meetings, 1968-69; 25 secondary school teachers of mathematics from county school systems of Conecuh, Wilcox and Baldwin, and the Brewton City System. Subject matter background and teaching skills will be strengthened for teachers of school systems which are undertaking curriculum improvements. Dr. Walter L. Furman, Department of Mathematics.

ARIZONA

NORTHERN ARIZONA UNIVERSITY, Flagstaff 86001; Chemistry (Chem Study); summer: 6 weeks, June 10 - July 19, 1968, followed by 5 meetings in academic year 1968-69; 25 high school chemistry teachers from Arizona Public Schools. A program to improve the teaching of chemistry in Arizona high schools by preparing teachers to make greater use of the experimental approach in instructing students. Dr. John C. Wright, Department of Chemistry.

UNIVERSITY OF COLORADO, Boulder, Colorado 80302; Earth Science (Earth Science Curriculum Project materials); summer: 4 weeks, June 17 - July 12, 1968, at the University of Colorado; academic year: 16 meetings in Phoenix, Arizona; 10 teachers from Arizona junior high schools. Dr. Marjorie H. Gardner, Director of ESCP Teacher Preparation. (This project is also listed under COLORADO.)

ARKANSAS

UNIVERSITY OF ARKANSAS, Fayetteville 72701; Secondary Mathematics; summer: 6 weeks, July 15 - August 23, 1968; academic year: 1968-69, 32 meetings; 30 secondary school mathematics teachers from Fayetteville and Springdale School Systems. This project is designed to improve the subject matter background of teachers and to develop a plan for instructing algebra by team teaching methods. Dr. Billy J. Attebery, Department of Mathematics.

SOUTHERN STATE COLLEGE, Magnolia 71753; Elementary School Science (Science Curriculum Improvement Study materials); summer: 3 weeks, June 3 - 21, 1968; academic year: 1968-69, 15 meetings; 36 primary grade teachers including principals and curriculum director from Magnolia Public Schools. Teachers, principals and a curriculum director will study SCIS materials and plan for the incorporation of SCIS into the Magnolia schools. Dr. B. C. Dodson, Department of Chemistry.

CALIFORNIA

SAN DIEGO STATE COLLEGE, San Diego 92115; Advanced High School Mathematics; summer: 8 weeks, June 24 - August 15, 1968; academic year: September - December 1968, 16 meetings; 50 high school teachers from school systems of San Diego County. This project will provide the teachers with subject matter to increase their competence and confidence in working with technological and scientific applications of mathematics. Dr. Jack D. Price, Department of Education.

SAN DIEGO STATE COLLEGE, San Diego 92115; Economics; summer: 6 weeks, June 24 - August 2, 1968; consultative meetings during academic year 1968-69; 40 high school teachers from school districts in San Diego County and San Diego Unified School District. The objective of the project is the improvement of the teaching of twelfth grade economics in San Diego County. Dr. Joseph McClintic, Department of Economics.

SAN FERNANDO VALLEY COLLEGE, Northridge 91324; Chemistry for High School Biology Teachers; 8 weeks, June 19 - August 16, 1968; academic year: 14 meetings, 1968-69; 36 high school biology teachers from Los Angeles Schools. The improvement of biology instruction is sought through the more accurate and effective use of chemistry principles and processes by biology teachers. Dr. Gordon L. Kilgour, Department of Chemistry.

SONOMA STATE COLLEGE, Rohnert Park 94928; Elementary School Science (Elementary School Science Project materials); summer: 6 weeks June 24 - August 2, 1968; academic year: 10 meetings, September 1968 - May 1969; 20 elementary school teachers from the Dixie School District, San Rafael, California. Selected participants will be prepared to become resource persons, and aid others in the implementation of new ESS materials into their classes. Mr. Mogens Kristensen, Educational Services and Summer Session.

UNIVERSITY OF CALIFORNIA, Berkeley 94720; Elementary School Science (Science Curriculum Improvement Project material); summer: 4 weeks, June 17 - July 12, 1968, with coordinating program during academic year 1968-69, 18 meetings; 52 primary teachers from Berkeley Unified School District. Participants will initiate and implement a new science curriculum (SCIS) into the primary grades of the District. Professor Robert Karplus, Physics Department.

UNIVERSITY OF COLORADO, Boulder, Colorado 80302; Biology(Biological Science Curriculum Study materials); summer: 6 weeks, June 17 - July 26, 1968, in Los Angeles; 2 follow-up meetings during the academic year 1968-69; 60 high school teachers from the Los Angeles City Schools. Dr. Glen E. Peterson, BSCS, P. O. Box 930, Boulder. (This project is also listed under COLORADO.)

UNIVERSITY OF THE PACIFIC, Stockton 95204; Elementary Mathematics; summer: 5 weeks, June 17 - July 19, 1968; 10 meetings during October, November, and Decemoer of 1968; 36 elementary mathematics teachers, same teachers and 60 students will participate in the academic year sessions 1968-69; Lincoln Unified School District of Stockton. The objective is to strengthen the competence of teachers and to correlate the textbook materials used in grades 4, 5 and 6 with those used in other grades. Professor Frank C. Gentry, Department of Mathematics.

UNIVERSITY OF SANTA CLARA, Santa Clara 95053; Secondary Mathematics; summer: 2 weeks, August 19 - 30, 1968; 45 meetings from September 1968 to June 1969; 6 mathematics teachers of the cooperating system and approximately 220 college preparatory mathematics students in grades 11 and 12; Cupertino High School, Sunnyvale. The mathematics curriculum will be improved through the development of unique problem solving exercises for the more capable students. Professor G. L. Alexanderson, Department of Mathematics.

UNIVERSITY OF SOUTHERN CALIFORNIA, Los Angeles 90007; Chemistry (Chem Study); summer: 7 weeks, June 17 - August 2, 1968; academic year: 1968-69, 6 meetings; 30 chemistry teachers from the Los Angeles Unified School District. Teachers will receive special training to equip them more adequately to teach modern chemistry. Dr. Marjorie J. Vold, Department of Chemistry.

WEBSTER COLLEGE, St. Louis, Missouri 63119 (with Los Angeles Public Schools; to be held in Los Angeles) Mathematics (Madison Project materials); summer: 2 weeks, July 15 - 26, 1968; 120 teachers and 8 principals from selected Los Angeles schools; academic year 1968 - 1969, 38 weeks; in-service classes and other teacher training activities; 300 teacher participants. Director: Dr. Robert B. Davis, Department of Mathematics, Syracuse University, Syracuse, New York 13210; Los Angeles contact: Mr. George Arbogast, Elementary Mathematics Specialist, Los Angeles City Schools, Los Angeles, California 90012. (This project is also listed under MISSOURI.)

COLORADO

UNIVERSITY OF COLORADO, Boulder 80302; Elementary School Science (AAAS Science - A Process Approach and Elementary School Science Project materials); summer: 2 weeks, June 10 - 21, 1968; academic year: 2nd semester of 1967-68 and first semester of 1968-69; 50 elementary teachers for summer program and 350 elementary teachers in academic year program. Cheery Creek and Colorado Springs Schools. A group of key teachers will receive in-depth training in preparation for adoption of new elementary science curricula in their schools. Dr. Ronald D. Anderson, School of Education.

UNIVERSITY OF COLORADO, Boulder 80302; Earth Science (Earth Science Curriculum Project materials); summer: 4 weeks, June 17 - July 12, 1968, academic year: 1968-69, 16 meetings; 80 junior high school teachers from schools in six selected population centers in five western states: (1) Moscow, Idaho; (2) Pocatello, Idaho; (3) Salt Lake City, Utah; (4) Reno, Nevada; (5) Phoenix, Arizona; and (6) Albuquerque, New Mexico. Teachers will be prepared to teach the new interdisciplinary, experience-centered course in earth science. Dr. Marjorie H. Gardner, Director of ESCP Teacher Preparation.

UNIVERSITY OF COLORADO, Boulder 80302; Biology (Biological Science Curriculum Study materials); summer: 6 weeks, June 17 - July 26, 1968; 2 follow-up meetings during the academic year 1968-69; 60 high school teachers from Los Angeles City School Districts. The completion of a two-year project to prepare teachers to teach BSCS in the Los Angeles Schools. Dr. Glen E. Peterson, BSCS, P. O. Box 930, Boulder.

UNIVERSITY OF COLORADO, Denver, Center, Denver 80202; Computer Mathematics and Computer Programming; summer: 5 weeks, June 17 - July 19, 1968; academic year 1968-1969, staff will visit cooperating schools on a weekly basis; 30 mathematics and science teachers from Denver Public Schools. Selected teachers will be introduced to computer programming together with applications to mathematics, engineering and science. Professor Paul E. Bartlett, College of Engineering.

CONNECTICUT

FAIRFIELD UNIVERSITY, Fairfield 06430; Field Biology, Ecology, Conservation; summer: 6 weeks, July 8 - August 16, 1968; academic year: 1968-69, 5 meetings; 36 key teachers of 4th, 5th and 6th grades from 4 Fairfield County School Systems, Stamford, Milford, Norwalk and Westport. Elementary teachers will be prepared to teach field biology units in general science courses by using local green areas as outdoor laboratories. Dr. John Klimas, Biology Department.

UNIVERSITY OF BRIDGEPORT, Bridgeport 06602; Mathematics; summer: 3 weeks, August 12 - August 30, 1968, followed by 15 meetings in academic year 1968-69; 35 junior and senior high school teachers from Bridgeport City Schools, and schools in surrounding areas. Improvement in the teaching of mathematics will result from this project which will provide appropriate background material for teachers of geometry. Dr. Wray G. Brady, Department of Mathematics.

DISTRICT OF COLUMBIA

THE AMERICAN UNIVERSITY, Washington 20016; Elementary School Science (AAAS Science - A Process Approach and Science Curriculum Improvement Study Project materials); summer: 4 weeks, June 19 - July 17, 1968; academic year: 1968-69, 27 meetings; 30 elementary teachers, 15 elementary principals, and 36 students for summer demonstration classes, from schools of the District of Columbia. Teachers will receive training in two new elementary science programs and will teach one of them during the following academic year in District of Columbia classrooms. Dr. Leo Schubert, Department of Chemistry.

HOWARD UNIVERSITY, Washington 20001; Physics; 64 meetings from September 12, 1968 through June 5, 1969; 20 science teachers from high schools of the District of Columbia. The project will upgrade physics teaching in District schools by strengthening the academic background of the teachers. Dr. Halson V. Eagleson, Department of Physics.

FLORIDA

FLORIDA INSTITUTE OF TECHNOLOGY, Melbourne 32901; Extra-Classroom Research Activities; summer: June 17 - August 9, 1968; academic year: 1968-69; 38 meetings; 20 high school science teachers during the summer plus 12 additional teachers with previous research training during the academic year and an indefinite number of students from selected school systems in Brevard, Orange, and Indiana River Counties. Science teachers will engage in research activities in the summer and will supervise student research projects during the academic year. Dr. David D. Woodbridge, Director of Research.

GEORGIA

ARMSTRONG STATE COLLEGE, Savannah 31406; Mathematics; summer: 8 weeks, June 10 - August 2, 1968; academic year: 1968-69, 180 meetings; 30 high school teachers, same teachers and 50 high school students during academic year from Chatham County School System. Pre-calculus and geometry courses will be used with demonstration teaching to develop stronger teachers of second year algebra. Dr. F. Lane Hardy, Department of Mathematics.

OGLETHORPE COLLEGE, Atlanta 30319; Elementary School Science (AAAS Science - A Process Approach); summer: 6 weeks, June 10 - July 19, 1968; academic year: 1968-69, 8 meetings; 24 elementary teachers and 6 administrators from Atlanta City Schools. Training in one of the new elementary science programs will be coupled with methods for evaluating students progress. Professor George F. Wheeler, Science Division.

UNIVERSITY OF GEORGIA, Athens 30601; Mathematics; summer: 9 weeks, June 10 - August 9, 1968; academic year: 1968-69; 32 meetings; 25 secondary school and 25 junior high school teachers; 60 students as part of a demonstration class during the summer; 6 Northeast Georgia School Systems. Assistance will be given to several school systems in implementing a major mathematics curriculum revision. Dr. W. D. McKillip, Department of Mathematics Education.

HAWAII

UNIVERSITY OF ILLINOIS, Urbana, Illinois 61801 (with State of Hawaii Public Schools) Mathematics (UICSM); summer: 6 weeks, July 1 - August 9, 1968, in Honolulu; academic year: 38 meetings; 30 junior high school teachers. Teachers will receive training in UICSM mathematics in preparation for using the materials in the classrooms. Professor Max Beberman, University of Illinois Committee on School Mathematics, 1210 West Springfield, Urbana, Illinois 61801.

IDAHO

UNIVERSITY OF COLORADO, Boulder, Colorado 80302; Earth Science (Earth Science Curriculum Project materials); summer: 4 weeks, June 17 - July 12, 1968 at the University of Colorado; academic year, 16 meetings in Moscow, Idaho and duplicate 16 meetings in Pocatello, Idaho; 30 teachers from Idaho junior high schools. Dr. Marjorie H. Gardner, Director of ESCP Teacher Preparation. (This project is also listed under COLORADO.)

ILLINOIS

GREENVILLE COLLEGE, Greenville 62246; Physics; six 6-week summer sessions: E. Illinois University (6/24-8/2), S. Illinois University at Carbondale (6/17-7/30), S. Illinois University at Edwardsville (7/8-8/16), Western Illinois University (6/17-7/26), DePaul University (6/24-8/2), Lake Forest College (7/8-8/16); academic year 1968-69: 15 meetings plus classroom visits; 180 physics teachers from the high schools of Illinois. This is a state-wide effort in cooperation with the Illinois State Department of Education to increase the quality and quantity of physics instruction in the schools of the State. Dr. Charles M. Weller, Department of Secondary Education, University of Illinois, Urbana.

ROOSEVELT UNIVERSITY, Chicago 60605; Introductory Physical Science; summer: 2 weeks, August 19 - 30, 1968; 20 Saturday morning meetings during academic year 1968-69; 60 junior high school teachers who will teach IPS in the Chicago schools next year. These teachers will receive training and assistance with the new IPS materials. Dr. Robert W. Estin, Department of Physics.

UNIVERSITY OF CHICAGO, Chicago 60637; Mathematics, Physical and Biological Sciences; summer: 6 weeks, June 24 - August 1, 1968; 10 meetings during academic year 1968-69; 40 high school teachers and 40 high school students from Chicago Public School System. Teachers from inner-city schools will participate in experimental classes and develop materials for use with their own students. Dr. Leopold E. Klopfer, Department of Education.

UNIVERSITY OF ILLINOIS, Urbana 61801 (with eight east-central Illinois school systems); Mathematics (UICSM); summer: 6 weeks, July 1 - August 9, 1968, at University of Illinois, Urbana; academic year: 38 weeks, September 4, 1968 - June 13, 1969; participants: 22 teachers from the Armstrong, Bement, Catlin, Champaign, Deland-Weldon, Fithian, Gilman, and Willa Grove, Illinois school systems. Participating teachers will receive special training in UICSM mathematics in preparation for introducing the materials into their classrooms. Professor Max Beberman, University of Illinois Committee on School Mathematics, 1210 West Springfield, Urbana, Illinois 61801.

UNIVERSITY OF ILLINOIS, Urbana 61801 (with Philadelphia Public Schools) Mathematics (UICSM); summer: 6 weeks, July 1 - August 9, 1968 at University of Illinois, Urbana; academic year 1968-69: 40 weeks, September 4, 1968 - June 27, 1969, in-service training activities in Philadelphia; participants: 60 Philadelphia junior high school teachers. Participating teachers will receive special training in UICSM mathematics in preparation for introducing the materials into their classrooms. Professor Max Beberman, University of Illinois Committee on School Mathematics, 1210 West Springfield, Urbana, Illinois 61801. (This project is also listed under PENNSYLVANIA.)

UNIVERSITY OF ILLINOIS, Urbana 61801 (with State of Hawaii Public Schools) Mathematics (UICSM); summer: 6 weeks, June 1 - August 9, 1968, in Honolulu; academic year 1968-69: 38 weeks, September 4, 1968 - June 13, 1969, in-service training activities in Hawaii; participants: 30 Hawaii junior high school teachers. Participating teachers will receive special training in UICSM mathematics in preparation for introducing the materials into their classrooms. Professor Max Beberman, University of Illinois Committee on School Mathematics, 1210 West Springfield, Urbana, Illinois 61801. (Also listed under HAWAII.)

WEBSTER COLLEGE, St. Louis 63119 (with Chicago Public Schools; to be held in Chicago) Mathematics (Madison Project materials); summer: 2 weeks, August 19 - 30, 1968; 100 teachers from selected Chicago schools; academic year 1968-69: 38 weeks; in-service classes and other teacher training activities; 300 participating teachers. Director: Dr. Robert B. Davis, Department of Mathematics, Syracuse University, Syracuse, New York 13210; Chicago contact: Mrs. Evelyn Carlson, Associate Superintendent, Chicago Board of Education, Chicago Illinois 60601. (This project is also listed under MISSOURI.)

INDIANA

INDIANA STATE UNIVERSITY. Terre Haute 47809; Physical Science and Earth Science; summer: 10 weeks, June 10 - August 16, 1968; academic year 1968-69, 32 meetings; 40 junior high school teachers from Indianapolis Public School System. Special training will prepare teachers to introduce and improve junior high school courses in physical and earth sciences. Professor John C. Hook, Department of Geography - Geology.

UNIVERSITY OF NOTRE DAME, Notre Dame 46556; Earth Science (Earth Science Curriculum Project materials); summer: 7 weeks, June 17 - August 2, 1968; 10 meetings during the academic year 1968-69; 30 high school teachers and 50 students for summer demonstration classes from north-central Indiana and southern Michigan schools. Teachers will receive preparation to teach the new interdisciplinary, experience-centered ESCP course in earth science. Dr. R. C. Gutschick, Department of Geology.

IOWA

IOWA STATE UNIVERSITY, Ames 50010; Earth Science; summer: 5 weeks, June 16 - July 20, 1968 (at Philmont Boy Scout Ranch); 11 meetings distributed across academic year 1968-69; 44 earth science teachers from any Iowa school system or those school systems from adjacent states whose teachers can attend the in-service sessions. Experience in conducting earth science field trips will be provided teachers by having them conduct scouts on such trips at the Philmont Boy Scout Ranch in New Mexico. Dr. Keith M. Hussey, Department of Earth Science.

KANSAS

KANSAS STATE TEACHERS COLLEGE, Emporia 66801; Earth Science; summer: 6 weeks, June 3- July 12, 1968; 16 meetings to be held for teachers in cooperating schools during the academic year 1968-69; 53 junior high school teachers from Topeka Public School System and the 13 school districts comprising the Flint Hill Educational and Development Association. The project will train teachers and supervise the introduction of new earth science course materials into the curricula of cooperating schools. Dr. Glenn H. Crumb, Department of Physical Science.

LOUISIANA

FRANCIS T. NICHOLLS STATE COLLEGE, Thibodaux 70301; Secondary Mathematics; summer: 8 weeks, June 10 - August 2, 1968; 30 meetings during the academic year 1968-69; 40 secondary mathematics teachers from schools within commuting distance of Nicholls State College. The overall mathematics programs in cooperating schools will be improved through the provision of special courses in Level I CUPM mathematics to selected teachers. Dr. Merlin M. Ohmer, Department of Mathematics.

LOUISIANA STATE UNIVERSITY, Baton Rouge 70803; Chemistry (Chem Study); summer: 9 weeks, June 3 - August 2, 1968; 6 meetings during academic year 1968-69; 24 high school chemistry teachers from cooperating school systems in vicinity of Baton Rouge. Local school systems will be assisted in improving chemistry programs by this project which will provide subject matter training and expert supervision for teachers. Dr. Charles A. Schexnayder, Department of Botany.

LOUISIANA STATE UNIVERSITY, Baton Rouge 70803; Historical Geology Paleontology and Mineralogy-Petrology for Teachers; summer: 9 weeks, June 3 - August 2, 1968; followed by a one-week meeting of 5 participants during academic year 1968-69; 24 junior high school teachers from East Baton Rouge Parish Schools. Various aspects of earth science will be emphasized including methods of instruction and the development of curriculum materials. Professor Harold V. Anderson, Geology Department.

NORTHWESTERN STATE COLLEGE, Natchitoches 71457; Biology (Biological Science Curriculum Study materials); summer: 9 weeks, June 3 - August 1, 1968; 4 meetings in academic year 1968-69; 24 high school biology teachers from cooperating parishes in Louisiana. Area teachers will be assisted with the introduction of BSCS Green Version into their classes. Dr. W. G. Erwin, Department of Biological Sciences.

NORTHWESTERN STATE COLLEGE, Natchitoches 71457; Elementary Science (AAAS Science - A Process Approach); summer: 2 weeks, June 17 - 28, 1968; 6 meetings plus several staff visits to each classroom during the academic year 1968-69; 25 elementary teachers and 8 elementary principals or supervisors from the Louisiana parishes of Vernon, Rapides and Winn. Cooperating schools will be assisted in the implementation of the AAAS elementary science program. Dr. W. G. Erwin, Department of Biological Sciences.

MARYLAND

GOUCHER COLLEGE, Towson 21204; Computer Mathematics; academic year: 30 meetings, 10 meetings during each of the three semesters beginning January 1968 - June 1969; 12 secondary school mathematics teachers and approximately 72 students from three Baltimore County Systems and St. Paul's School for Girls. Teachers will be prepared to introduce computer-related courses into the secondary schools of the Baltimore area. Professor Dorothy L. Bernstein, Department of Mathematics.

UNIVERSITY OF MARYLAND, College Park 20740; Elementary School Mathematics; 6 weeks, June 24 - August 2, 1968; 2 follow-up meetings during the 1968-69 academic year; 48 elementary school in-service leaders, 2 from each school district of Maryland. Representatives from each public school district will be prepared to act as in-service leaders for other teachers in the area. Professor James Henkelman, Mathematics Project.

MASSACHUSETTS

EDUCATION DEVELOPMENT CENTER, Newton 02160; Elementary Science (Elementary School Science Project materials); summer: 6 weeks, June 24 - August 2, 1968; 10 meetings during the academic year; 23 elementary school teachers and 6 elementary school principals from Burnsville, Minnetonka, and Richfield School Districts in Minnesota. This project will provide an intensive training program for administrators and teachers in the use of ESS materials. Professor Merill C. Fellger, Elementary Science Study Project.

TUFTS UNIVERSITY, Medford 02155; Political Science; summer: 3 weeks, August 5 - 23, 1968; with coordinated program of 20 meetings during the 1968-69 academic year; 25 high school teachers from the Boston School System. Social study teachers will receive an introduction to the discipline of political science and teaching methods for presenting that subject in the classroom. Dr. John S. Gibson, Department of Political Science.

UNIVERSITY OF MASSACHUSETTS, Amherst 01002; Biology (Physiology of Greenhouse Plants); summer: 6 weeks, June 24 - August 2, 1968; academic year: 10 meetings plus staff visits to schools; 25 high school teachers from Massachusetts. Biology teachers will study the potentialities and uses of greenhouses as teaching aids. Dr. George B. Goddard, Department of Plant and Soil Sciences.

MICHIGAN

EASTERN MICHIGAN UNIVERSITY, Ypsilanti 48197; Physics; academic year: 40 meetings; 4 high school physics teachers and 70 high school students from the Detroit area schools. An "electronic blackboard" will be used to upgrade local physics teachers while providing a high quality course for students. Dr. Charles B. Breedlove, Department of Physics.

MICHIGAN STATE UNIVERSITY, East Lansing 48823; Elementary School Science (Science Curriculum Improvement Study materials); summer: 3 weeks, August 5 - 23, 1968; with 120 meetings during the academic year; 40 elementary school teachers from East Lansing, Dewitt, Grand Ledge and Perry Public Schools. Teachers will study the philosophy and methodology of SCIS and will plan the uses of these materials in their classrooms. Dr. Glenn D. Berkheimer, Science and Mathematics Department.

UNIVERSITY OF DETROIT, Detroit 48221; Physics; summer: 6 weeks, June 24 - August 2, 1968; academic year: special sessions to be arranged; 40 high school physics teachers of the Detroit Public School System. The final year of a multiple year project to upgrade physics teaching through the preparation of teachers in new textbook materials. Dr. Gerhard A. Blass, Department of Physics.

WESTERN MICHIGAN UNIVERSITY, Kalamazoo 49001; Physical Science; academic year: 30 meetings, September 11, 1968 - May 14, 1969; 24 elementary school and 7 junior high school teachers from the Royal Oaks School District. Fundamental subject matter training in the physical sciences will enable participants to use a locally produced Science Guide with greater effectiveness. Dr. George G. Mallinson, School of Graduate Study.

MINNESOTA

EDUCATION DEVELOPMENT CENTER, Newton, Massachusetts 02160; Elementary Science (Elementary School Science Project materials); summer: 6 weeks, June 24 - August 2, 1968; 10 meetings during the academic year; 23 elementary school teachers and 6 elementary school principals from Burnsville, Minnetonka and Richfield School Districts in Minnesota. This project provides intensive training for administrators and teachers so that they may use ESS materials with increased confidence. Professor Merill C. Fellger, Elementary Science Study Project. (This project is also listed under MASSACHUSETTS.)

MISSISSIPPI

MISSISSIPPI STATE COLLEGE FOR WOMEN, Columbus 39701; Biology (Biological Science Curriculum Study - Green Version); summer: 8 weeks, June 10 - August 2, 1968; academic year: 5 meetings plus classroom visits by the project staff; 24 biology teachers and 20 students selected from schools in Lowndes and adjacent counties of Mississippi. Lectures, laboratory procedures and demonstration classes will assist teachers to use the BSCS Green Version materials. Dr. R. E. Garth, Department of Biological Science.

MISSOURI

UNIVERSITY OF MISSOURI, Columbus 65201; Physics and Physical Science; summer: 8 weeks of study in physics, June 10 - August 2, 1968 at the University of Missouri and 6 weeks of study in physical science, June 17 - July 27, 1968 at William Jewell College; academic year: special meetings to be arranged for both groups; 16 physics teachers and 16 junior high school teachers from selected Missouri schools; 16 high school students to study physics at Columbia during the summer. This is the final year of a 3-year project to strengthen the physics program in high schools throughout the state of Missouri. Dr. Louis V. Holroyd, Department of Physics.

WEBSTER COLLEGE, St. Louis 63119; Mathematics (Madison Project materials.) Intensive two-week summer workshops will be conducted in four large cities to train teachers in the content and teaching philosophy of the Madison Project. Resident coordinators at each site will work with teachers during the following academic year presenting in-service training classes and providing other assistance through a planned program. The workshops will be held as follows — New York City: 2 weeks, July 1-12, 1968; Los Angeles: 2 weeks, July 15-26, 1968; Chicago: 2 weeks, August 19-30, 1968; Philadelphia: 2 weeks, August 19-30, 1968. Participants: summer - 540 elementary teachers; academic year - 1200, all from school systems of the four cities. Director: Dr. Robert B. Davis, Department of Mathematics, Syracuse University, Syracuse, New York 13210. (See NEW YORK, CALIFORNIA, ILLINOIS, AND PENNSYLVANIA listings for additional information on these projects.)

NEBRASKA

CREIGHTON UNIVERSITY, Omaha 68131; Biological Sciences (Ecology); summer: 6 weeks, June 12 - July 21, 1968; followed by 10 meetings from September 1968 - June 1969; 30 elementary school teachers from Omaha region schools. The Fontenelle Forest Nature Center will serve as a facility to provide teachers with classroom and field competence in natural science. Dr. Allen B. Schlesinger, Department of Biology.

NEVADA

UNIVERSITY OF COLORADO, Boulder, Colorado 80302; Earth Science (Earth Science Curriculum Project materials); summer: 4 weeks, June 17 - July 12, 1968 at the University of Colorado; academic year: 16 meetings in Reno, Nevada; 10 junior high school teachers from Nevada schools, Dr. Marjorie H. Gardner, Director of ESCP Teacher Preparation. (This project is also listed under COLORADO.)

NEW HAMPSHIRE

DARTMOUTH COLLEGE, Hanover 03755; Elementary School Science; summer: 4 weeks, July 29 - August 23, 1968; academic year: 44 meetings, 1968-1969; 35 elementary school teachers from Hanover and Lyme, New Hampshire and Norwich, Vermont. The project will help develop a cadre of competent teachers in the use of the various new elementary school science curriculum materials. Professor Donald Campbell, Department of Education.

NEW JERSEY

GLASSBORO STATE COLLEGE, Glassboro 08028; Elementary School Science, (Science Curriculum Improvement Study materials); summer: 6 weeks, June 25 - August 4, 1968; academic year: 30 meetings; 60 elementary school teachers from Glassboro, Salem and Willingboro Public Schools. Teachers in three school districts will explore the status of elementary school science and receive assistance in the implementation of SCIS in their schools. Dr. V. Eugene Vivian, Department of Science.

NEW MEXICO

UNIVERSITY OF COLORADO, Boulder, Colorado 80302; Earth Science (Earth Science Curriculum Project materials); summer: 4 weeks, June 17-July 12, 1968 at the University of Colorado; academic year: 16 meetings in Albuquerque, New Mexico; 10 teachers from New Mexico junior high schools. Dr. Marjorie H. Gardner, Director of ESCP Teacher Preparation. (This project is also listed under COLORADO.)

NEW YORK

BROOKLYN COLLEGE OF THE CITY UNIVERSITY OF NEW YORK, Brooklyn 11210; Secondary Mathematics; summer: 6 weeks, July 1 - August 10, 1968; academic year: 15 Saturday meetings plus classroom visitations by the project staff; 40 teachers selected from the New York City School System. The participating teachers will be trained in junior high mathematics and modern high school geometry and will produce lesson plans for teaching seventh and tenth year mathematics. Dr. Lester L. Gavurin, Department of Mathematics.

NEW YORK UNIVERSITY, New York 10003; Elementary School Science; academic year: 30 meetings; 60 elementary school teachers from the Town of South Oyster Bay, Long Island. New curricular developments will be presented in a program to prepare resource teachers for the elementary schools of South Oyster Bay. Dr. Morris H. Shamos, Physics Department.

POLYTECHNIC INSTITUTE OF BROOKLYN, Brooklyn 11201; Engineering (Engineering Concepts Curriculum Project materials); summer: 6 weeks, July 8 - August 16, 1968; academic year: 18 meetings, September 1968 -May 1969; 28 secondary school teachers from New York and New Jersey. Teachers will be prepared to introduce the new laboratory-oriented engineering concepts course in their respective high schools. Professor B. A. Sachs, Department of Engineering.

WALDEMAR MEDICAL RESEARCH FOUNDATION, INC., Woodbury 11797; Biological Sciences; summer: 6 weeks, July 1 - August 9, 1968; academic year: 16 meetings from September 1968 to January 1969; 5 secondary school teachers and 75 students during the summer; 25 secondary school teachers and 125 students during the academic year; schools in Nassau and Suffolk Counties and New York City. Courses in experimental biology will be conducted for teachers during the summer followed by an academic year program of research with talented students. Dr. Leo Gross, Director of Educational Programs.

WEBSTER COLLEGE, St. Louis, Missouri 63119 (with New York City Public Schools; to be held in New York City) Mathematics (Madison Project materials); summer: 2 weeks, July 1 - 12, 1968; 100 teachers from selected New York City schools; academic year 1968-69: 38 weeks; in-service classes and other teacher training activities; 300 participating teachers. Director: Dr. Robert B. Davis, Department of Mathematics, Syracuse, University, Syracuse, New York 13210; New York City contact: Mr. George Grossman, Director of Mathematics, Board of Education, Brooklyn, New York 11001. (This project is also listed under MISSOURI.)

NORTH CAROLINA

WAKE FOREST UNIVERSITY, Winston-Salem 27109; Biology; summer: 6 weeks, June 17 - July 26, 1968; 6 meetings equally spaced during the academic year 1968-69; 24 biology teachers located within commuting distance of the University. This is a continuation of a project to aid North Carolina schools wishing to introduce BSCS Yellow Version Biology materials. Dr. John F. Dimmick, Department of Biology.

OHIO

JOHN CARROLL UNIVERSITY, Cleveland 44118; Physics; summer: 9 weeks, June 24 - August 23, 1968; 60 meetings during academic year 1968-69; 24 high school teachers from Cleveland public and diocesan school systems. Teachers will study classical and modern physics and mathematics to better equip them to teach high school physics in Cleveland. Dr. Harry C. Nash, Department of Physics.

OKLAHOMA

OKLAHOMA STATE UNIVERSITY, Stillwater 74074; Economics; summer: 2 weeks, June 5 - 19, 1968; academic year: 52 meetings during spring 1968 and through 1969; 40 teachers selected from all levels of the Ponca City School System. Instructional materials in economics will be integrated into the social studies courses of the Ponca City School System. Dr. Clayton Millington, School of Business.

UNIVERSITY OF OKLAHOMA, Norman 73069; Science Education (Science Curriculum Improvement Study materials); summer: 6 weeks, June 10 - July 19, 1968; academic year: 36 meetings, 1968-69; 50 elementary school teachers from Norman, Moore, and the Arthur School of Oklahoma City. Elementary teachers from three schools will study new approaches to teaching science through the use of SCIS materials. Dr. John W. Renner, College of Education.

OREGON

PORTLAND STATE COLLEGE, Portland 97207; Biology, Chemistry, Physics; summer: 8 weeks, June 17 - August 9, 1968; academic year: 22 meetings; 20 high school teachers from the Portland metropolitan area schools. Teachers of the Portland School System will be assisted in introducing a new integrated course which includes biology, chemistry, and physics. Dr. Karl Dittmer, Division of Science.

PENNSYLVANIA

GANNON COLLEGE, Erie 16501; Biological Sciences for Elementary School Teachers (Field Biology, Ecology, Conservation and AAAS); summer: 6 weeks, July 8 - August 18, 1968; academic year: 30 meetings; 46 elementary school teachers (1st and 2nd grades) from the Erie Public School System. Elementary teachers of Erie will receive special experiences in science and field biology while being instructed in the classroom use of AAAS curriculum materials. Dr. Elmer F. Kohlmiller, Biology Department.

UNIVERSITY OF ILLINOIS, Urbana, Illinois 61801 (with Philadelphia Public Schools) Mathematics (UICSM); summer: 6 weeks, July 1 - August 9, 1968 at University of Illinois, Urbana; academic year in Philadelphia: 40 meetings, September 4, 1968 - June 27, 1969; participants: 60 Philadelphia junior high school teachers. Professor Max Beberman, University of Illinois Committee on School Mathematics, 1210 West Springfield, Urbana, Illinois 61801. (This project is also listed under ILLINOIS.)

WEBSTER COLLEGE, St. Louis, Missouri 63119 (with Philadelphia Public Schools; to be held in Philadelphia) Mathematics (Madison Project materials); summer: 2 weeks, August 19-30, 1968; 200 teachers from selected Philadelphia schools; academic year: 38 meetings; same 200 participants plus 100 additional elementary teachers from Philadelphia. Director: Dr. Robert B. Davis, Department of Mathematics, Syracuse University, Syracuse, New York 13210; Philadelphia contact: Mr. Karl Kalman, Mathematics Coordinator for Philadelphia Schools, 21st and Parkway, Philadelphia 19103. (This project is also listed under MISSOURI.)

SOUTH CAROLINA

MORRIS COLLEGE, Sumter 29150; Elementary Mathematics; summer: 8 weeks, June 7 - August 2, 1968; academic year: 8 meetings; 55 elementary school teachers from the Summerton School District Number 1. Teachers will receive training in basic concepts of set theory, real numbers and geometry suitable for elementary grades with the aim of enriching the elementary mathematics program. Professor James L. Solomon, Jr., Department of Mathematics.

SOUTH DAKOTA

SOUTH DAKOTA STATE UNIVERSITY, Brookings 57006; Elementary School Science (AAAS Science - A Process Approach); academic year: 36 meetings; 37 elementary school teachers from Brookings Public School System. The Brookings Elementary Schools will develop an elementary science program based on the behavioral objectives as outlined by AAAS. Dr. Gerald A. Myers, Department of Botany-Biology.

TENNESSEE

CHRISTIAN BROTHERS COLLEGE, Memphis 38104; Physical Science and Physics (Physical Science Study Committee materials); summer: 8 weeks, June 10 - August 2, 1968; academic year: 9 meetings; 60 high school teachers from Memphis and Shelby School Systems. This is an extension of a project to upgrade the teaching of physical science and physics in the Memphis and Shelby School Systems. Brother Edward Doody, Science and Mathematics Department.

TEXAS

LAMAR STATE COLLEGE OF TECHNOLOGY, Beaumont 77704; Engineering; summer: 6 weeks, July 15 - August 23, 1968; academic year: 32 meetings; 20 high school teachers from Beaumont High School. Engineering concepts will be introduced to teachers of many disciplines in an effort to develop a cross-disciplinary approach to preparing high school students for a technological environment. Dr. Bruce G. Rogers, Department of Civil Engineering.

NORTH TEXAS STATE UNIVERSITY. Denton 76203; Elementary Science (AAAS Science - A Process Approach); summer: August 26 - 30, 1968; academic year: 20 meetings, September 1968 - May 1969; 34 elementary school teachers from Hurst-Euless-Redford Independent School District. Participants will receive special training in physical science and the AAAS materials in preparation for introducing a revised elementary science program. Dr. Paul J. Cowan, School of Education.

UNIVERSITY OF HOUSTON, Houston 77704; Engineering (Engineering Concepts Curriculum Project materials); summer: 1 week, August 26 - 30, 1968; academic year: 32 half-day meetings during 1968-69; 28 high school teachers from the Houston Public Schools. Science and Mathematics teachers of the Houston School System will be assisted in introducing the new course, "Man Made World," into the senior high school curriculum. Dr. W. J. Graff, Department of Civil Engineering.

UNIVERSITY OF TEXAS, Austin 78712; Physical Science (Introductory Physical Science materials); summer: 8 weeks, June 25 - August 20, 1968; academic year: 15 meetings; 15 junior high school teachers from Austin. The University will help the Austin School System introduce IPS at the Junior High School level through a special summer program followed by bi-weekly meetings during the academic year. Dr. Earl J. Montague, Department of Curriculum and Instruction.

THE UNIVERSITY OF TEXAS AT EL PASO, El Paso 79999; Economics; summer: 8 weeks, June 10 - August 5, 1968; classroom visitations during academic year; 20 high school teachers from El Paso Independent School District. The objective is to increase the economic content of the social studies materials being taught through special economics training for the teachers and through integrating economics content into existing courses. Dr. Philip Duriez, Department of Economics.

UTAH

UNIVERSITY OF COLORADO, Boulder, Colorado 80302; Earth Science (Earth Science Curriculum Project materials); summer: 4 weeks, June 7 - July 12, 1968 at the University of Colorado; academic year: 16 meetings at Salt Lake City, Utah; 20 junior high school teachers from Utah schools. Dr. Marjorie H. Gardner, Director of ESCP Teacher Preparation. (This project is also listed under COLORADO.)

THE UNIVERSITY OF UTAH, Salt Lake City 84112; Mathematics; summer: 6 weeks, June 10 - July 19, 1968; academic year: 36 meetings; 150 elementary school teachers from the Granite School District. This project will help develop three teachers of mathematics in each of 50 elementary schools who will serve as resource people. Dr. D. K. Reed, Department of Mathematics.

VIRGINIA

UNIVERSITY OF VIRGINIA, Charlottesville 22903; Physical Science (Introductory Physical Science materials); summer: 1 week, August 26 - 30, 1968; academic year: 32 meetings; September 15, 1968 - June 1, 1969; 10 junior high school teachers for the summer and 150 junior high school teachers during the academic year from Chesapeake-Virginia Beach, Hampton-Newport News, Richmond, Prince William County and Roanoke County Schools. Ten teachers will be prepared as resource people in IPS and then will work with 150 other teachers and administrators in preparing to use these materials in the cooperating schools. Dr. Ertle Thompson, Department of Science Education.

WASHINGTON

WESTERN WASHINGTON STATE COLLEGE, Bellingham 98225; Physics; summer: 8 weeks, June 17 - August 9, 1968; academic year: 30 meetings, September 1968 - June 1969; 30 secondary school teachers and 20 outstanding science students from Whatcom and Skagit Counties. Special courses, seminars, and demonstration classes will enable teachers to improve their understanding of the new curricula they will be teaching and will encourage flexible teaching techniques. Dr. Raymond R. McLeod, Department of Physics.

WEST VIRGINIA

WEST VIRGINIA UNIVERSITY, Morgantown 25606; Biology (BSCS Special Materials); summer: 6 weeks, July 1 - August 8, 1968; 4 meetings during the 1968-69 academic year; 25 high school biology teachers from the Marion, Monongalia and Preston County School Systems. A program to assist local biology teachers introduce BSCS special materials into their classrooms. Dr. Jay Barton II, Department of Biology.

WISCONSIN

UNIVERSITY OF WISCONSIN, Madison 53706; Mathematics; summer: 8 weeks, June 24 - August 17, 1968; academic year: 30 meetings during spring of 1968 plus 63 meetings during 1968-69 for the elementary school teachers; 8 meetings during the spring of 1968 for all junior high school teachers; 37 elementary school teachers and 60 junior high school teachers from Madison Public Schools. Elementary and junior high school teachers will be prepared to use new mathematics materials in their respective classrooms. Dr. R. C. Buck, Department of Mathematics.

UNIVERSITY OF WISCONSIN, Milwaukee, 53201; Physical Science; summer: 8 weeks, June 17 - August 10, 1968 for 30 secondary school teachers; academic year: 8 meetings for the summer participants and 30 meetings for 50 additional secondary school teachers and 20 students from the Milwaukee Public Schools. The school faculty with the assistance of university professors will prepare, use, and evaluate a revised curriculum in physical science. Mr. R. A. Jaggard, Department of Physics.

WYOMING

UNIVERSITY OF WYOMING, Laramie 82070; Chemistry and Physics; summer: 5 weeks, July 15 - August 16, 1968; academic year: 60 meetings during 1968-69; 40 secondary school teachers and 60 senior high school students selected from the Caster, Lander, Sheridan, Riverton, Thermopolis, and Worland,Wyoming Schools and Fort Collins, Colorado Schools. Special courses in chemistry and physics will improve the backgrounds of selected teachers who will be further assisted during the academic year through a telephone and remote blackboard communication system with the University. Dr. E. Gerald Meyer, Department of Chemistry.

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